

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method ~~for accessing a specific instance associated with a programmable logic controller coupled to an operating system, wherein said specific instance is not registered with said operating system such that a server of said operating system is not able to normally access said specific instance using a registration of said operating system, wherein said specific instance has specific parameters that differentiate said specific instance from other instances, the method~~ comprising the steps of:

for a specific instance associated with a programmable logic controller comprising a first operating system, wherein said programmable logic controller is communicatively coupled to a server running under a second operating system on a personal computer;

determining that said specific instance is not registered ~~with the said second~~ operating system and that said specific instance is already running under said first operating system; and

utilizing a moniker, automatically registering said specific instance with said second operating system, such that said specific instance, which was previously not registered with said operating system such that said server was not able to normally access said specific instance, is accessible by said server by checking a running object table of said second operating system's registration.

2. (Currently Amended) The method according to claim 1, wherein said step of registering does not ~~register-instantiate~~ objects that are not running such that a dormant programmable logic controller is not erroneously activated.

3. (Currently Amended) The method according to claim 1, further comprising: ~~the step of remotely coupling said programmable logic controller to said operating system~~ personal computer.

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

4. (Currently Amended) The method according to claim 3, wherein said step of remotely coupling couples said programmable logic controller to ~~said operating system~~personal computer over the internet.

5. (Previously presented) The method according to claim 1, further comprising the step of obtaining a name of an object associated with said specific instance from a memory location allocated for said programmable logic controller.

6. (Currently Amended) The method according to claim 1, further comprising the step of parsing ~~a display name of said object~~moniker to generate a parsed display name.

7. (Original) The method according to claim 6, further comprising the step of creating a pointer moniker using said parsed display name.

8. (Original) The method of claim 7, further comprising the step of binding said pointer moniker to said server.

9. (Original) The method of claim 7, further comprising the step of creating an item moniker using a portion of said parsed display name to the right of a part corresponding to said pointer moniker.

10. (Original) The method of claim 6, further comprising the step of binding said item moniker to said server.

11. (Original) The method of claim 6, further comprising the step of recursively creating item monikers for items.

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

12. (Currently Amended) The method of claim 6, further comprising binding a leftmost portion of said parsed display name ~~resulting monikers~~ to said server.

13. (Currently Amended) A method ~~for accessing a specific instance of an object associated with an operating system, wherein said specific instance is not registered with said operating system such that a server of said operating system is not able to normally access said specific instance using a registration of said operating system, wherein said specific instance has specific parameters that differentiate said specific instance from other instances, the method~~ comprising the steps of:

for a specific instance of an object associated with a first operating system, wherein said specific instance is not registered with a second operating system such that a server running under said second operating system is not able to normally access said specific instance;

determining that said specific instance is not registered in a running object table of said second operating system and that said specific instance is already running under said first operating system; and

utilizing a moniker, registering said specific instance with said second operating system such that said specific instance of said object, that was previously not registered with said second operating system such that said server was not able to normally access said specific instance, is accessible by said server by checking said running object table of said second operating system's registration.

14. (Original) The method of claim 13, further comprising the step of converting a program ID to obtain a class ID of said specific instance.

15. (Currently Amended) The method of claim 14, further comprising the step of parsing

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

~~a said moniker string~~ to obtain a parsed moniker string.

16. (Original) The method of claim 15, further comprising the step of creating a pointer moniker to said specific instance using said parsed moniker string.

17. (Original) The method of claim 16, further comprising the step of binding said pointer moniker to said server.

18. (Currently Amended) The method of claim 17, further comprising the step of ~~instantiating-linking to~~ said specific instance using said pointer moniker.

19. (Original) The method of claim 13, wherein said specific instance is associated with a programmable logic controller, wherein said step of registering registers said specific instance without changing a tagfile server name.

20. (Original) The method of claim 19, further comprising the step of binding a pointer moniker of said specific instance to a client.

21. (Currently Amended) An apparatus ~~for accessing a specific instance associated with a programmable logic controller coupled to an operating system, wherein said specific instance is not registered with the operating system such that a server of said operating system is not able to normally access said specific instance by accessing a registration of said operating system, wherein said specific instance has specific parameters that differentiate said specific instance from other instances, the apparatus comprising:~~

a memory for adapted to store registering a said specific instance, said memory associated with a programmable logic controller with said operating system that comprises a first operating

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

system; and

a processor ~~for~~ adapted to:

~~determining that~~ register said specific instance ~~is not registered in with~~ said ~~memory~~ first operating system, ~~that said specific instance is already running;~~ and

via a moniker, for registering provide access to said specific instance via a personal computer comprising a second with said operating system such that said specific instance of said object, ~~that was previously not registered with said operating system such that said server was not able to normally access said specific instance,~~ is accessible ~~by a~~ said server associated with said personal computer by accessing said ~~registration of a~~ running objects table of said second operating system.

22. (Currently Amended) The apparatus according to claim 21, further comprising a connection for remotely coupling ~~said operating system to~~ said programmable logic controller to said personal computer.

23. (Original) The apparatus according to claim 22, wherein said connection is an internet connection.

24. (Original) The apparatus according to claim 22, wherein said connection is a Universal Serial Bus connection.

25. (Original) The apparatus of claim 22, wherein said connection is a communications (COM) port connection.

26. (Cancelled)

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

27. (Currently Amended) The apparatus of claim 21, further comprising a display for displaying signals associated with said ~~programmable logic controllers~~specific instance.

28. (Currently Amended) The apparatus of claim 27, wherein said processor processes said signals associated with said ~~programmable logic controllers~~specific instance to transform said signals into signals of a predetermined format defined by said server for display on said display.

29. (Cancelled)

30. (Currently Amended) The apparatus of claim ~~29~~21, wherein said ~~processor~~PC-~~establishes~~is adapted to establish a remote connection to couple said processor to said ~~programmable logic controller~~personal computer.

31. (Original) The apparatus of claim 21, further comprising a plurality of programmable logic controllers coupled to said processor.

32. (Original) The apparatus according to claim 31, further comprising a connection between said plurality of programmable logic controllers thereby forming a master-slave relationship in which a master programmable logic controller directs control of machinery coupled to a slave programmable logic controller.

33. (Currently Amended) The apparatus of claim 21, further comprising firmware for providing an interface between said processor and said ~~programmable logic controller~~personal computer.

34. (Original) The apparatus of claim 33, wherein said firmware provides identification

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

information of said programmable logic controller that is used by the processor for registering said specific instance.

35. (Currently Amended) The apparatus of claim 33, wherein said firmware is a ~~personal~~ on a pluggable computer card.

36. (Currently Amended) An apparatus ~~for accessing a specific instance associated with a programmable logic controller coupled to an operating system, wherein said specific instance is not registered with the operating system such that a server of said operating system is not able to normally access said specific instance by accessing a registration of said operating system, wherein said specific instance has specific parameters that differentiate said specific instance from other instances, the apparatus comprising:~~

memory means for adapted to registering store a said specific instance, said memory associated with a programmable logic controller that comprises a first with said operating system;
and

processor means for adapted to:

~~-determining register that said specific instance is not registered in said memory means, that said specific instance is already running with said first operating system;~~ and
for

via a moniker, registering provide access to said specific instance via a personal computer comprising a second with said operating system such that said specific instance of said object, that was previously not registered with said operating system such that said server was not able to normally access said specific instance, is accessible by a said server associated with said personal computer by accessing said registration a running objects table of said second operating system.

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

37. (Currently Amended) The apparatus according to claim 36, further comprising connection means for remotely coupling ~~said operating system to said~~ programmable logic controller to said personal computer.

38. (Original) The apparatus according to claim 37, wherein said connection means is a means to connect to the internet.

39. (Original) The apparatus according to claim 37, wherein said connection means is a means to connect to a Universal Serial Bus connection.

40. (Original) The apparatus of claim 36, wherein said connection means is a means to connect to a communications (COM) port.

41. (Cancelled)

42. (Currently Amended) The apparatus of claim 36, further comprising display means for displaying signals associated with said ~~programmable logic controllers~~ specific instance.

43. (Currently Amended) The apparatus of claim 42, wherein said processor means processes said signals associated with said ~~programmable logic controllers~~ specific instance to transform said signals into signals of a predetermined format defined by said server for display on said display.

44. (Cancelled)

45. (Currently Amended) The apparatus of claim 44, wherein said ~~PC~~ processor means

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

establishes a remote connection to couple said ~~processor means~~personal computer to said programmable logic controller.

46. (Original) The apparatus of claim 36, further comprising a plurality of programmable logic controllers coupled to said processor means.

47. (Currently Amended) The apparatus according to claim 46, further comprising a connection means ~~to for providing~~provide a connection between said plurality of programmable logic controllers thereby forming a master-slave relationship in which a master programmable logic controller directs control of machinery coupled to a slave programmable logic controller.

48. (Currently Amended) The apparatus of claim 36, further comprising firmware means for providing an interface between said processor means and said ~~programmable logic controller~~personal computer.

49. (Original) The apparatus of claim 48, wherein said firmware means provides identification information of said programmable logic controller that is used by the processor means for registering said specific instance.

50. (Currently Amended) The apparatus of claim 47, wherein said firmware means is a ~~personal computer on a pluggable~~ card.

51. (Currently Amended) An article of manufacture encoded with processor instructions for ~~driving a processor according to a method for accessing a specific instance of an object associated with an operating system, wherein said specific instance is not registered with said operating system such that a server of said operating system is not able to normally access said~~

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

~~specific instance using a registration of said operating system, wherein said specific instance has specific parameters that differentiate said specific instance from other instances, the method of said article of manufacture for driving said processor comprising the steps of activities comprising:~~

for a specific instance of an object associated with a first operating system, wherein said specific instance is not registered with said second operating system such that a server of said second operating system is not able to normally access said specific instance;

determining that said specific instance is not registered in a running object table of said second operating system and that said specific instance is already running under said first operating system; and

utilizing a moniker, registering said specific instance with said second operating system such that said specific instance of said object, that was previously not registered with said second operating system such that said server was not able to normally access said specific instance, is accessible by said server by checking said running object table of said second operating system's registration.

52. (Currently Amended) The article of manufacture of claim 51, wherein the processor instructions encoded on said article of manufacture further ~~comprising~~ comprises the ~~step~~ activity of converting a program ID to obtain a class ID of said specific instance.

53. (Currently Amended) The article of manufacture of claim 52, wherein the processor instructions encoded on said article of manufacture further ~~comprising~~ comprises the ~~step~~ activity of parsing ~~said~~ a moniker string to obtain a parsed moniker string.

54. (Currently Amended) The article of manufacture of claim 53, wherein the processor instructions encoded on said article of manufacture further ~~comprising~~ comprises the ~~step~~

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

activity of creating a pointer moniker to said specific instance using said parsed moniker string.

55. (Currently Amended) The article of manufacture of claim 54, wherein the processor instructions encoded on said article of manufacture further ~~comprising~~ comprises the activity ~~step~~ of binding said pointer moniker to said server.

56. (Currently Amended) The article of manufacture of claim 55, wherein the processor instructions encoded on said article of manufacture further ~~comprising~~ comprises the activity ~~step~~ of ~~instantiating~~ linking to said specific instance using said pointer moniker.

57. (Currently Amended) The article of manufacture of claim 52, wherein said specific instance is associated with a programmable logic controller, wherein said activity ~~step~~ of registering registers said specific instance without changing a tagfile server name.

58. (Currently Amended) The article of manufacture of claim 57, wherein the processor instructions encoded on said article of manufacture further ~~comprising~~ comprises the step activity of binding a pointer moniker of said specific instance to a client.

59. (New) The method of claim 21, further comprising:
registering said specific instance with said second operating system with a user-defined name.

60. (New) The method of claim 21, further comprising:
providing an interface to input/output points, wherein said programmable logic controller is adapted to provide data from said input/output points to said personal computer

PATENT

Serial No. 09/506,640

Attorney Docket No. 1999P07475US01 (1009-023)

61. (New) The apparatus of claim 36, wherein said processor is adapted to provide access to said specific instance via said second operating system with a user-defined name.

62. (New) The apparatus of claim 36, further comprising:

an interface means to input/output points, wherein said programmable logic controller is adapted to provide data from said input/output points via said specific instance to said personal computer.